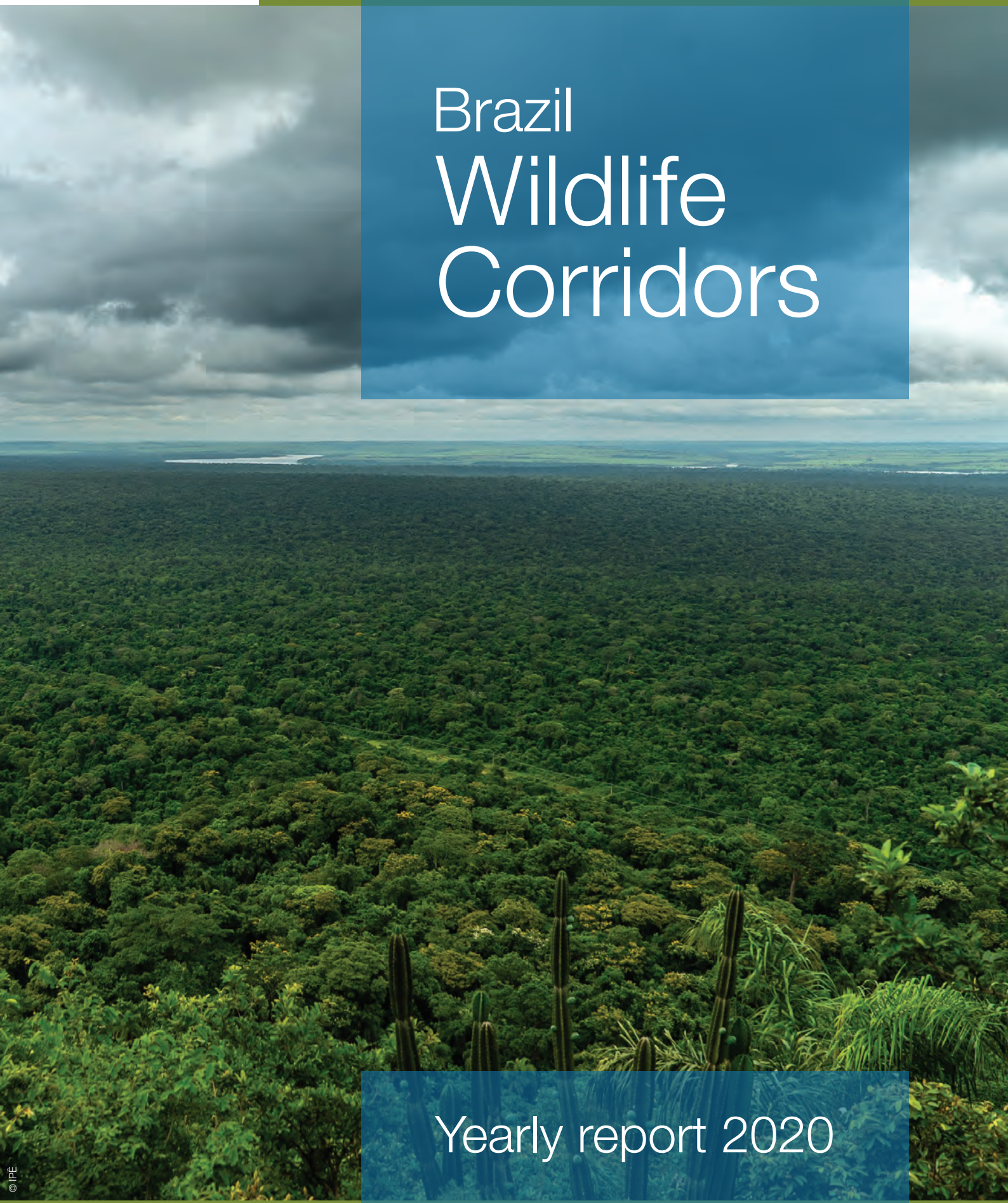
WeForest
Making Earth Cooler

Brazil Wildlife Corridors



Yearly report 2020

Restoring the Atlantic Forest to bring back wildlife

Pontal do Paranapanema, Brazil

2020 was a challenging year for everybody. Our project in Pontal was no exception, although thankfully tree planting could continue, since the work was field-based. Field crews followed safety protocols such as using masks, disinfecting vehicles and equipment, supplying disinfectants to staff and respecting social distancing.

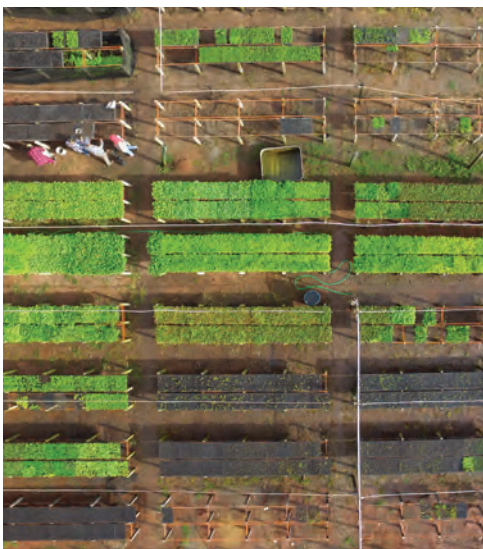
We had planned to sign landowners up to convert forest fragments on their lands into private forest reserves, but since in-person meetings were not possible, this had to be postponed. Educational folders and online meetings were set up as alternative ways to raise awareness and interest. We plan to start again in 2021 once local state agencies (who need to be involved in the process) are no longer in lockdown.

2020 saw climate change have a real impact on the project. Planting here is very dependent on climatic conditions and used to take place from October to March, but temperatures in December and January now regularly reach 42°C, which kills young seedlings. Not only that, but the rainy season – which compensated for the temperature – is less predictable than before. Now planting is scheduled for March to June when it's cooler, and then from September to November, so when the rains finally arrive again the seedlings are better established – but if it's raining enough and the temperatures are not too high, planting will take place earlier. We do need extra irrigation, especially in the first month, but this change will give the seedlings a better chance of survival.

This report shares an update of our progress during 2020. Thank you for all your support!

2020 in **PICTURES**

Photos © IPÊ



2020 in **NUMBERS**

WeForest's project, in partnership with the Instituto de Pesquisas Ecológicas (IPÊ), aims to grow forest corridors that connect remaining patches of the Atlantic Forest and bring back wildlife. An NGO that has been working with conservation, generation of income and forest restoration in the Pontal do Paranapanema region since 1989, IPÊ coordinates the field crew for forest restoration and reaches out to landowners to establish private reserves in the project landscape.

Restoration

Our targets are on track. A total of 438,330 seedlings were planted and 574,000 trees* are expected within two years on the 287.14 ha brought under restoration over two planting seasons.

70% of the restoration took place in the second planting season of the year, from November.

Preparation started on 194.74 ha that will be planted by April 2021 with a target* of almost 390,000 trees. Activities include fencing, ant control, and soil preparation.

During the last few months of 2020, negotiations were started with 5 landowners interested in establishing about 1732 ha in total of their lands as private reserves.

Empowering women

Of the 39 people working in 10 plant nurseries, 28% (11) are women.

Women manage 4 of the 10 nurseries that provide seedlings for the project.

Around 80% of the staff of the nurseries are from the project landscape.

40% of the IPÊ staff are women.

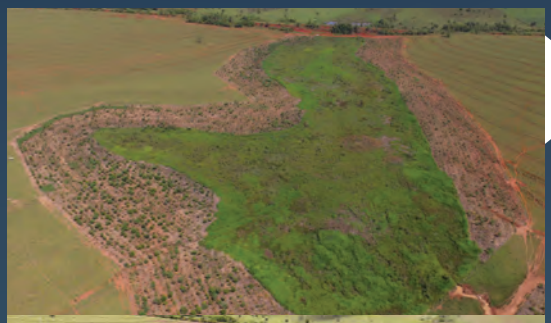
Publications

2 scientific articles related to the WeForest restoration areas were published in 2020:

Badari *et al*. (2020). 'Ecological outcomes of agroforests and restoration 15 years after planting'. *Restoration Ecology* (research funded by WeForest)

Chazdon *et al*. (2020). 'People, primates and predators in the Pontal: from endangered species conservation to forest and landscape restoration in Brazil's Atlantic Forest'. *Royal Society Open Science*

** We calculate tree numbers by the resulting density of 2000 trees per ha after 2 years >1cm diameter (measured by diameter at breast height). This includes planted and naturally regenerating trees.*



Before and after

These images show how one of the planting sites looked in January 2020, and then a year later (see the corresponding polygon on the interactive map here). Although small, this area buffers a wetland attached to the Morro do Diabo State Park, playing an important part in expanding the habitats and protecting this fragile ecosystem from agricultural activities. In these pictures you can clearly see the green cover increasing.

This drone image of the planting site was taken in January 2021. Trees grow slowly, though, and it will still take a while until this area becomes a fully grown forest!

JAN

- Fencing & mapping
- Planting

FEB

- Fencing & mapping
- Planting

MAR

- Planting
- Seed collection and sorting
- Firebreaks

APR

- Controlling invasive grasses & herbivores
- After-planting care

MAY

- Controlling invasive grasses & herbivores
- After-planting care

JUN

- Controlling invasive grasses & herbivores

A successful finish to the 2019-2020 planting season

By the end of the 2019-2020 planting season, we had concluded the restoration of 87.4 ha with a target of almost 175,000 trees. 75% of the planting took place at Estrela farm, one of the farms in the North Corridor. This large restoration site expands the habitat of the forest remnant directly above it, and is critical to connect the northern forest remnants with the south, which is an ecological station for black lion tamarins.

Agroforestry an important part of landscape-scale approaches

After collecting data on hundreds of trees in agroforestry, forests under restoration and old-growth forest remnants, researchers discovered that agroforestry systems can deliver similar ecological benefits as forests under restoration in the long-term, while also providing food and other goods for local communities. Their research was published in the renowned journal *Restoration Ecology* in April. Our work to begin agroforestry with farmers here was delayed in 2020 and we plan to initiate as soon as we can.

The NewFor project

In 2020 a new project – an extension of the Partnership of IPÊ, WeForest and the University of São Paulo – started to gather data on the structure, carbon stocks, taxonomic and functional diversity, and soil attributes of new forests in São Paulo State. Aiming to better understand how new forests behave, WeForest restoration sites will be monitored and evaluated using LiDAR (remote sensing) data to provide a high-resolution carbon map of several of the restoration sites.

Acoustic monitoring for bird, bat and amphibian species

WeForest and RFCx are establishing a fauna acoustic monitoring plan focusing on restored sites, where the presence of 40 bird, bat and amphibian species will be registered by 120 samples. This technology will enable in-depth biodiversity studies, and set up long-term acoustic monitoring stations to enable continued studies to take place in the reestablished functional ecological corridors over time.

JUL

- Controlling grasses & herbivores
- Seed collection and sorting

AUG

- Controlling invasive grasses & herbivores
- After-planting care

SEP

- Controlling invasive grasses & herbivores
- After-planting care

OCT

- Controlling invasive grasses & herbivores
- Planting

NOV

- Controlling invasive grasses & herbivores
- Planting

DEC

- Controlling grasses & herbivores
- Planting

From farming on a settlement to running a restoration company

Claudio is the son of rural settlers who moved to the area in the 1960s. He has always enjoyed working directly with the land, and in the 1990s he joined IPÊ's tree planting initiatives. In the beginning, he had very little equipment, but with the income from the activities he was able to invest in tools and hire staff.

Now Claudio owns his own company that works full time on the restoration activities with a team of 11 people. He has learned a lot over the years: in the beginning, he was able to plant 2000 seedlings a day; today he plants 11,000 per day with the same number of staff. As well as providing jobs to the local community, his work has allowed him to send his four children to university, and he proudly lists their careers: veterinarian, doctor, agronomist and dentist. As if this wasn't enough, he also manages one of the project's community nurseries, producing around 120,000 native tree seedlings per year.

Second planting starts

The 2020-2021 planting season began in November 2020, finalizing the 199.72 ha (a target of over 399,000 trees) that had started in the second quarter of 2020, as well as the preparation of the 194.74 ha (targeting over 389,000 trees) that will be planted by April 2021.

What's next?

Restoration activities

- Establish an estimated 110 ha for ecological restoration, representing a target of 220,000 trees.
- Plan for future seedlings based on an evaluation of species with best field performance (survival and growth).

Livelihoods

- Continue to support income for local communities by purchasing around 200,000 native species seedlings from plant nurseries and implementation companies.
- Engage 5 landowners in converting their properties' forest fragments into protected areas (private reserves) across a total of around 1,700 ha.

Monitoring and evaluation

- A vegetation assessment from February to May 2021 (delayed due to COVID) will provide updated estimates for the development indicators.
- In the first quarter of 2021, we expect to have the preliminary results from soils and vegetation collected as part of the NewFor project.
- Installation of the WeForest and RFCx audiorecorders will take place during the next rainy season (December 2021 and January 2022), which is the reproduction season for birds and amphibians.

How do we know our restored forests are growing and making an impact?

Every hectare under restoration is mapped with GPS points to generate polygons (areas on a map) that are assigned to sponsors. Permanent monitoring plots are established in our sites and our forestry and science teams conduct surveys to monitor progress of biomass growth, tree density, survival rate and species diversity, among other indicators. Where social impacts are also critical, we measure socio-economic indicators such as the number of beneficiaries, people trained, and income generated from forest-friendly livelihood activities.

Please visit our **Why and How** webpage for more information.